

Work Order ID 53815-2 ~~Split-2~~

November 18, 2009 2:21:32 PM



SPLIT - 2

Page 1

Item ID: D4010-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw Assembly

Start Date: 11/18/2009 Start Qty: 18.00

14



Cust Item ID:

Required Date: 11/19/2009 Req'd Qty: 18.00



Customer:

Reference:

Approvals:

Process Plan: mf

Date: 09-11-19

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

Draw Nbr

Revision Nbr

D4010-041

C

100

0.00



HandThermo

Memo

0.00

Hand Finishing Thermoforming

Pick Kit

BB 09/11/26

110

0.00



HandThermo

Memo

0.00

Hand Finishing Thermoforming

1- Use wearplate jig DT9542 to transfer drill holes in bearpaw as per dwg and use 0.375" unbite to open holes to finish size.
2- Use wearbar to transfer drill hole and open to finish size as per dwg
3- Deburr
4- Assemble as per Dwg D4010

BB 09/11/26
X 14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53815

November 18, 2009 2:21:32 PM



Page 2

Item ID: D4010-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw Assembly

Start Date: 11/18/2009 Start Qty: 18.00



Cust Item ID:

Required Date: 11/19/2009 Req'd Qty: 18.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop



Sequence ID/
Work Center ID

Operation
Description

Set Up/
Run Hours

Draw
Number

Draw
Rev.

Plan
Code

Accept
Qty

Reject
Qty

Reject
Number

Insp.
Stamp

120

QC2- Inspect parts off machine FAI/FAIB

0.00



QC

Memo

0.00

Quality Control

130

QC5- Inspect part completeness to step on W/O

0.00



QC

Memo

0.00

Quality Control

140

Identify as per dwg & Stock Location:

0.00



Packaging

Memo

0.00

Packaging

2) 5016126



9/4/14

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Work Order ID 53815

November 18, 2009 2:21:32 PM



Page 3

Item ID: D4010-041

Accept



Setup Start



Revision ID:

Stop



Item Name: Bearpaw Assembly

Start Date: 11/18/2009 Start Qty: 18.00



Cust Item ID:

Required Date: 11/19/2009 Req'd Qty: 18.00



Customer:

Reference:

Approvals:

Process Plan:

Date:

Tooling:

Date:

Run Start



QC:

Date:

SPC (Y/N):

Date:

Stop

Sequence ID/
Work Center IDOperation
DescriptionSet Up/
Run HoursDraw
NumberDraw
Rev.Plan
CodeAccept
QtyReject
QtyReject
NumberInsp.
Stamp

150

QC21- Final Inspection - Work Order Release

0.00



QC

Memo

0.00

Quality Control

09/11/26 *[Signature]**mf*
09-11-26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 18, 2009 2:21:31 PM

Page 1

Work Order ID: 53815



Parent Item: D4010-041



Parent Item Name: Bearpaw Assembly

Start Date: 11/18/2009

Required Date: 11/19/2009

Comments: IPP RevB: 09/11/03 Drawing changed to accomidate OEM and Dart Skidtube.
DL. Verified by:DD IPP Rev. C Dwg.
Redesign 09/11012 DL VERIFIED BY:DD

Start Qty: 18.00

Required Qty: 18.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
AN3C5A		Purchased	No			100	Each	1,132.000	90.0000			
Bolt												

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
Main Warehouse		
ST	1132	
111424	8	
111707	69	
112314	1	
112641	454	
113121	300	
113149	300	

D3456-1RevA



Washer

Manufactured No

100 Each 155.0000 54.0000

Warehouse	Loc Qty	Loc Code
<u>Location</u>		
OFFSHORE		
FG	7	
25701	7	
Main Warehouse		
ST	148	
51653	148	

D4010-1



Bearpaw

Manufactured No

100 Each 0.0000 18.0000

53816

X

5

53817

X

9

BB 09/11/26

BB 09/11/26

BB 09/11/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

November 18, 2009 2:21:31 PM

Work Order ID: 53815



Parent Item: D4010-041



Parent Item Name: Bearpaw Assembly



Start Date: 11/18/2009

Required Date: 11/19/2009

Comments: IPP RevB: 09/11/03 Drawing changed to accomidate OEM and Dart Skidtube.
DL. Verified by:DD IPP Rev. C Dwg.
Redesign 09/11/02 DL VERIFIED BY:DD

Start Qty: 18.00

Required Qty: 18.00

Component ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
D4013-041		Manufactured	No			100	Each	0.0000	18.0000			
												
Wearplate Assembly												
D4015-041		Manufactured	No		53825	100	Each	22.0000	90.0000			
												
Wearbar Weldment												

				<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
				<u>Location</u>		
				HONG KONG		
				ST	22	
				53252	22	
MS21043-3	Purchased	No		53818	100	Each
						4,841.000 90.0000

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	80	
103691	80	
Main Warehouse		
ST	4761	
111819	78	
112243	39	
112314	4644	70

BB 09/11/26

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

Picklist Print

November 18, 2009 2:21:32 PM

Page 3

Work Order ID: 53815



Parent Item: D4010-041



Parent Item Name: Bearpaw Assembly

Start Date: 11/18/2009

Required Date: 11/19/2009

Comments: IPP RevB: 09/11/03 Drawing changed to accomidate OEM and Dart Skidtube.
DL. Verified by:DD IPP Rev. C Dwg.
Redesign 09/11012 DL VERIFIED BY:DD

Start Qty: 18.00

Required Qty: 18.00

Component Item ID/	Replacement	Mfg/	Bin	Primary	Last	Route	Unit of	Qty on	Remaining	Qty	Date	Status
MS21043-4		Purchased	No			100	Each	1,341.000	54.0000			
Nut												

<u>Warehouse</u>	<u>Loc Qty</u>	<u>Loc Code</u>
<u>Location</u>		
OFFSHORE		
FG	40	
104603	40	
Main Warehouse		
ST	1301	
112243	2	
112314	499	
112492	300	
113064	500	

4/2

BB 09/11/26

November 18, 2009 2:21:32 PM

Shop Packet Print

Page 3

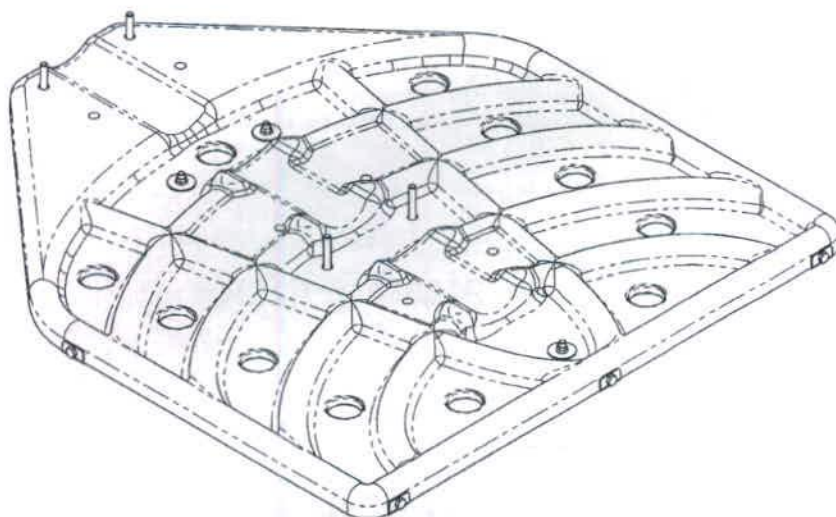
W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries



D4010-041 BEARPAW ASSEMBLY (407)

C	OPTIMIZED DESIGN BASED ON FUNCTIONALITY AND TO EASE MANUFACTURING	MB	09.11.10
B	REDESIGNED; ADDED PROVISIONS FOR COMPATIBILITY WITH OEM SKID/TUBES/SADDLES; REDEFINED SOME TOLERANCE	MB	09.11.02
A	NEW ISSUE	MB	09.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN	<i>[Signature]</i>	DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA	
DRAWN	<i>[Signature]</i>		
CHECKED	<i>[Signature]</i>	DRAWING NO.	REV. C
MFG. APPR.	<i>[Signature]</i>	D4010	SHEET 1 OF 3
APPROVED	<i>[Signature]</i>	TITLE	SCALE
DE APPR.	<i>[Signature]</i>	BEARPAW (407)	NTS
DATE	09.11.10	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS PROPRIETARY AND CONFIDENTIAL. USE IS RESTRICTED BY THE EXPRESS OR IMPLIED TERM OF THE "LIMITED WARRANTY" AND "LIMITED REMEDY" CLAUSES OF THE "LIMITED WARRANTY" AGREEMENT. NO PART OF THIS DOCUMENT MAY BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, ELECTRONIC OR MECHANICAL, INCLUDING PHOTOCOPYING, RECORDING, OR BY ANY INFORMATION STORAGE AND RETRIEVAL SYSTEM, WITHOUT PERMISSION IN WRITING FROM DART AEROSPACE LTD.</small>	

W/O:		WORK ORDER CHANGES					
DATE	STEP	PROCEDURE CHANGE	By	Date	Qty	Approval Chief Eng / Prod Mgr	Approval QC Inspector

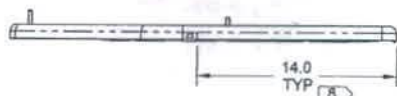
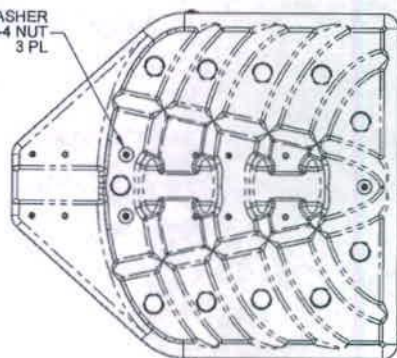
Part No: _____ PAR #: _____ Fault Category: _____ NCR: Yes No DQA: _____ Date: _____

Resolution: _____ Disposition: _____ QA: N/C Closed: _____ Date: _____

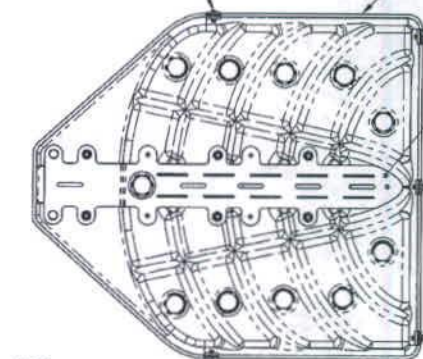
NCR:		WORK ORDER NON-CONFORMANCE (NCR)						
DATE	STEP	Description of NC Section A	Corrective Action Section B			Verification Section C	Approval Chief Eng	Approval QC Inspector
			Initial Chief Eng	Action Description Chief Eng	Sign & Date			

NOTE: Date & initial all entries

D3456-1 WASHER
MS21043-4 NUT
3 PL



AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT



AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4010-041 BEARPAW ASSEMBLY (407)

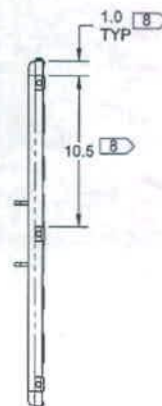
D4010-1
BEARPAW

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4013-041 WEARPLATE
ASSEMBLY

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT



#5285

ITEM	QTY -041	P/N	DESCRIPTION
1	X	D4010-041	BEARPAW ASSEMBLY (407)
3	3	D3456-1	WASHER
4	1	D4010-1	BEARPAW
5	1	D4013-041	WEARPLATE ASSEMBLY
6	5	D4015-041	WEARBAR
21	5	AN3C5A	BOLT
22	5	MS21043-3	NUT
23	3	MS21043-4	NUT

D4010-041 NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 9.41 lbs
- 8) LOCATE D4015-041 (ITEM 5) AS SHOWN AND TRANSFER DRILL $\varnothing 0.191$ " HOLE FROM D4015-041 TO D4010-1 BEARPAW AND FASTEN USING PRESCRIBED HARDWARE
- 9) TORQUE: AN3 NUTS = 15-20 in-lb
AN4 NUTS = 50-70 in-lb

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	A/S	DRAWING NO.	REV. C
MFG. APPR.		D4010	SHEET 2 OF 3
APPROVED		TITLE	SCALE
DE APPR.		BEARPAW (407)	NTS
DATE	09.11.10	<small>COPYRIGHT © 2009 BY DART AEROSPACE LTD. THIS DOCUMENT IS PRIVATE AND CONFIDENTIAL. IT IS NOT TO BE USED FOR ANY PURPOSES OR DISCLOSED OR REPRODUCED IN ANY MANNER WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.</small>	

5X4.

70

AD 3CSA

BOLT

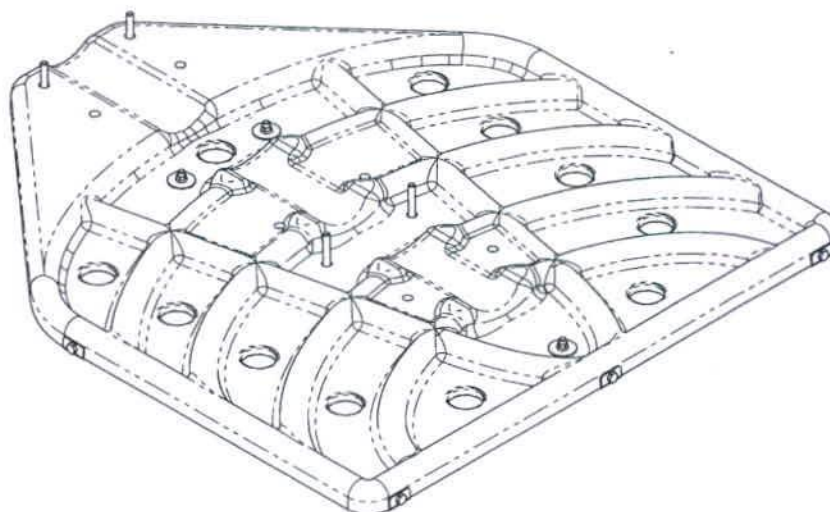
70

MS21043-3. Nut

MS21043-4 Nut

3x14.

42.



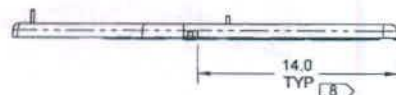
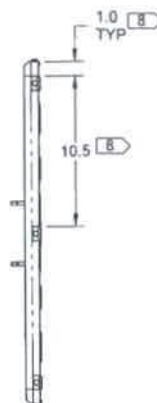
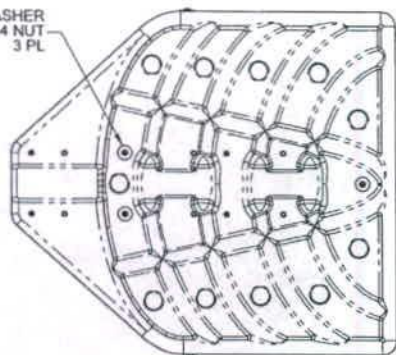
D4010-041 BEARPAW ASSEMBLY (407)

53815

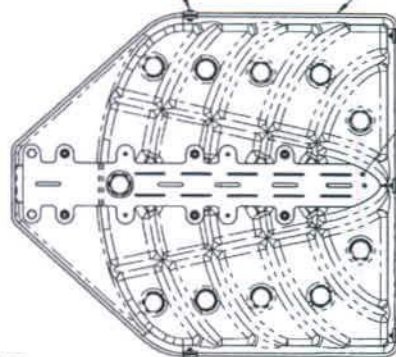
RELEASED
2009-11-21
MB

C	OPTIMIZED DESIGN BASED ON FUNCTIONALITY AND TO EASE MANUFACTURING	MB	09.11.10
B	REDESIGNED; ADDED PROVISIONS FOR COMPATIBILITY WITH OEM SKIDTUBE/SADDLES; REDEFINED SOME TOLERANCE	MB	09.11.02
A	NEW ISSUE	MB	09.10.22
REV.	DESCRIPTION	BY	DATE
DESIGN	LA		
DRAWN	LA		
CHECKED	AS		
MFG. APPR.	AS		
APPROVED	LA		
DE APPR.	LA		
DATE	09.11.10		
DART AEROSPACE LTD HAWKESBURY, ONTARIO, CANADA DRAWING NO. D4010 REV. C SHEET 1 OF 3 TITLE BEARPAW (407) SCALE NTS <small>COPYRIGHT © 2009 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS AVAILABLE TO THE PUBLIC ON THE CONDITION THAT IT IS NOT TO BE USED FOR ANY PURPOSE OF COMMERCIALIZATION TO ANY OTHER PERSON OR ENTITY WITHOUT PERMISSION FROM DART AEROSPACE LTD</small>			

D3456-1 WASHER
MS21043-4 NUT
3 PL



AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT



D4010-1
BEARPAW

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4013-041 WEARPLATE
ASSEMBLY

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

AN3C5A BOLT
D4015-041 WEARBAR
MS21043-3 NUT

D4010-041 BEARPAW ASSEMBLY (407)

ITEM	QTY -041	P/N	DESCRIPTION
1	X	D4010-041	BEARPAW ASSEMBLY (407)
3	3	D3456-1	WASHER
4	1	D4010-1	BEARPAW
5	1	D4013-041	WEARPLATE ASSEMBLY
6	5	D4015-041	WEARBAR
21	5	AN3C5A	BOLT
22	5	MS21043-3	NUT
23	3	MS21043-4	NUT

D4010-041 NOTES:

- 1) MATERIAL: N/A
- 2) FINISH: N/A
- 3) TOLERANCES: PER DART QSI 018 UNLESS OTHERWISE NOTED
- 4) UNITS: INCHES UNLESS OTHERWISE NOTED
- 5) BREAK SHARP EDGES: 0.005 TO 0.010 MAX
- 6) IDENTIFICATION: NONE
- 7) WEIGHT: 9.41 lbs
- 8) LOCATE D4015-041 (ITEM 5) AS SHOWN AND TRANSFER DRILL $\varnothing 0.191$ HOLE FROM D4015-041 TO D4010-1 BEARPAW AND FASTEN USING PRESCRIBED HARDWARE.
- 9) TORQUE: AN3 NUTS = 15-20 in-lb
AN4 NUTS = 50-70 in-lb

DESIGN		DART AEROSPACE LTD	
DRAWN		HAWKESBURY, ONTARIO, CANADA	
CHECKED	1/5	DRAWING NO. D4010	REV. C
MFG. APPR.		TITLE BEARPAW (407)	SHEET 2 OF 3
APPROVED			SCALE
DE APPR.			NTS
DATE	09.11.10	<small>COPYRIGHT © 2008 BY DART AEROSPACE LTD THIS DOCUMENT IS UNCLASSIFIED AND IS NOT TO BE RELEASED OR DISSEMINATED TO ANY OTHER PERSON OR ENTITY WITHOUT THE WRITTEN PERMISSION OF DART AEROSPACE LTD.</small>	

5381B

RELEASED
2009-11-24

